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MODERN CHANGES

IN

THE MOBILITY OF LABOUR

ESPECIALLY BETWEEN TRADE AND TRADE

: REPORT TO THE TOYNBEE TRUSTEES

BY

H. LLEWELLYN SMITH

CRISTUS CHRISTI COLLEGE, OXFORD

London

HENRY FROWDE

OXFORD UNIVERSITY PRESS WAREHOUSE

AMEN CORNER, E.C.

1891

Price One Shilling and Sixpence.

YC 26740

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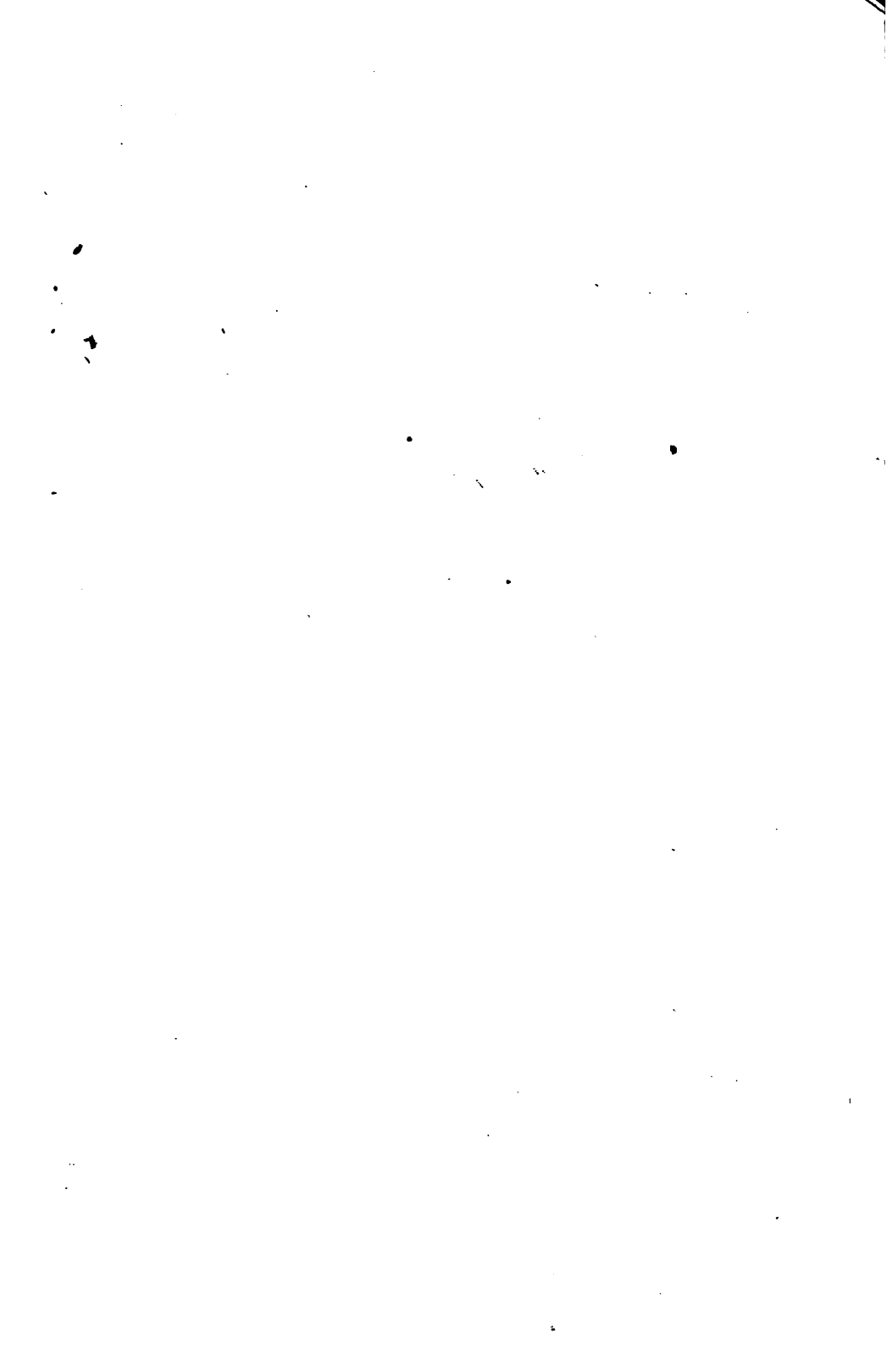
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Oxford

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P R E F A C E.

IN the autumn of 1887 I began an enquiry on behalf of the Toynbee Trustees into certain economic problems which could be advantageously studied in Bradford and the West Riding. The subject I chose was the influence of modern changes on the Mobility of Labour. I soon found, however, that a few months' investigation was quite insufficient to cover a field of enquiry so wide, and by permission of the Trustees I postponed the Report for a time, while in connection with the work of Mr. Charles Booth, who was then conducting his enquiries into industrial conditions in East London, I investigated more closely the question of migration from the country to the towns. That enquiry, so far as I have been able to make it, is now nearly completed. Part I. appeared in the first volume of 'Labour and Life of the People (East London)'¹. Part II will appear shortly in the second volume of the same work. The Report therefore which I now present to the Toynbee Trustees deals almost exclusively with mobility between trade and trade, rather than between place and place, though it is not always easy to separate the two questions.

It may be divided into two parts : (1) the Report, which is in the main an amplification of a paper read at the Leeds meeting of the British Association ; and (2) the Statistical Appendices, which represent the results of a careful analysis of returns prepared especially for the purpose. by the kindness of Mr. Cunliffe Lister and the managers and foremen of his great silk mills at Manningham. These tables show the former

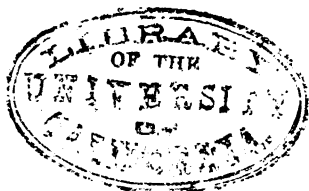
¹ Influx of Population.

occupations of all those employed in the mills, the occupations of their parents, their birthplaces, the place where they were formerly employed, and their length of residence in the Bradford district. To some extent the Appendices are elucidated in the Report, but in the main they are left to tell their own tale of the mobility of labour, extending over two generations. I desire to tender my hearty thanks to Mr. Lister and to all those members of his staff who took so much trouble on my behalf, as well as to those who have assisted me in tabulating the results. I am also indebted for much of the information contained in the Report to numerous friends, both manufacturers, trades unionists, and others who have kindly helped me in the enquiry. I would single out for special mention the members of the Bradford Trade Council.

H. LLEWELLYN SMITH.

49 Beaumont Square, E.

Nov. 1890.



MODERN CHANGES IN THE MOBILITY OF LABOUR.

§ 1. The Measurement of Mobility.

It has often been suggested that the advent of modern machine industry has, on the one hand, introduced incalculable chances into trade, rendering it more and more imperative that a labourer should have the power readily and easily to adapt himself to changes in his economic environment; while, on the other hand, it has simultaneously tended to diminish such power, by minutely dividing up employments, and by specialising the skill of the worker so as to make it useless, except for the particular process in which he is engaged. In other words, mobility of labour is at once demanded and destroyed. This is one of the so-called Marxian 'contradictions' inherent in capitalistic production.

I wish here to discuss only the latter half of the proposition. Leaving aside entirely the very interesting question, how far machinery demands and how far, on the contrary, it dispenses with the necessity for mobility, I ask, what has been the effect of modern changes on the power of the labourer to respond to such demands? This is a question which is important to the economist, not only in relation to the practical effects of industrial transitions, but in its bearing on the economic theory of value, and the connection of value with cost of production.

It is to be noted at the outset that, contrary to what is tacitly assumed in many writings, mobility is by no means the same as movement, nor is the one measured by the other, either with respect to change of place or change of industry. Mobility is the power of free economic choice of work, by transfer either from place to place, or from employment to employment.

Mobility
not mea-
sured by
volume of
move-
ment.

Example
from the
hand-
combers.

Now among the old nomadic hand-combers—the members of the hand-combers' club—roaming about the country in search of work, partly from habit, partly from necessity, there was far more movement but far less economic mobility than in the case of the workers in a modern worsted mill. Here there is but little drifting about to seek work, and less and less as means of communication become more perfect. A post-card from a weaver in the mill warns the friend at a distance as soon as a vacancy occurs, and instead of the old tramping in search of employment the journey is made to the mill once for all. Here the penny post has increased mobility while diminishing movement.

From
trade-
union
rules.

Similarly, the policy of the more enlightened trades unions is now directed to increase the mobility of their members by spreading exact information as to the state of the labour market in each locality, while at the same time they strongly discourage them from tramping with travelling pay.

From the
influx to
the towns.

In the same way the character of the influx from the country to the great towns seems to be changing. It is becoming 'mobilised.' I have collected a mass of evidence on this subject from a number of villages which send many of their more stalwart inhabitants to London. It mostly tells the same tale—one member of a family finds work in a town, and then, after getting rooted in a particular district, he gradually brings his friends and relations up one by one as vacancies occur around him. The volume of influx as a whole is no measure of the mobility of country labour, unless we can separate the indefinite from the definite element, the drift from the current. It is almost certain that, under the influence of education, easy communications, and the penny post, the definite element is increasing at the expense of the mere drift. If that be so, mobility is increased, but this does not imply more movement; it may, in fact, imply less.

From the
Cotton
Famine.

Or, to take yet another example; during the Lancashire Cotton Famine, the falling off in demand for cotton operatives gave rise to a simultaneous increase in the demand for labour in the woollen and worsted mills of the West Riding. Under conditions of perfect mobility, the increased demand at the Yorkshire end would have been met by a simple direct transference of labour from Lancashire. As it was, it required a

⌘ The results will be published in 'Labour and Life of the People' (Charles Booth), vol. ii.

considerable period of time, and a fall of wage, in some cases no less than a decrease from £1 to 5s. 6d., to induce a current of any magnitude to set in towards Yorkshire. Meanwhile, the mills of Bradford were being crowded by agricultural labourers from the surrounding districts, whose places were doubtless filled by other and subsidiary transferences of labour. In some cases agents were sent from Bradford to beat up recruits in Ireland. Thus there was a great and roundabout movement due to *immobility*.

The same general law holds good of movement from trade to trade. Thus there may be almost perfect economic mobility between two industries, and yet in normal times there may be little or no actual flow of labour between them. For there is always an initial difficulty—if it only amounts to awkwardness for a few days—which retards interchange even between kindred trades.

Thus even such a typically unskilled employment as dock labourer is divided up into a large number of sections, members of which keep as a rule to their own special branch of work—the unloading of corn, or timber, or hogsheads, or wool, as the case may be. But though so long as the market is crowded these sections may keep perfectly distinct, the smallest tension in the labour market might suffice to overcome the initial friction. Since then the chief interest in the discussion of mobility centres in its power of adjusting changes in the labour market, we must call dock labour mobile—at least within its own borders.

Again, a woollen-weaver could become an efficient cotton-weaver in a few days; but this initial difficulty would be quite enough to destroy the chances of a woollen-weaver obtaining work in a cotton mill, in the normal state of the labour market. Similarly, within the cotton trade itself there are strongly localised subdivisions, one kind of goods being made at Wigan, another at Oldham, and a third at Bolton, and so on, among which there is little or no cross-flow in ordinary times.

But here, as in the other cases quoted, the force which suffices to prevent interchange of employments is one of those forces (for which analogies in physical science, such as the surface tension between two fluids, will occur readily to the mind) whose power, though great over a narrow range, ceases abruptly beyond that range. It is overcome, in fact; by even a slight disturbance in the conditions of supply and demand

Initial friction.

Example from Dock Labour.

From the Textile Trades.

affecting the industries in question. And this *initial friction* as I call it, for want of a better term (which often in the ultimate analysis hardly amounts to more than the dislike of the foreman to put himself to extra trouble), is quite different from the barriers to economic movement based on natural or acquired aptitudes. An artist will rarely turn to chemistry, and if he do he will probably become a bad chemist, but a woollen-weaver will weave cotton as well as wool after the initial difficulty of the transfer has been overcome. And I would suggest that one tendency of machinery is often to make the dividing lines between industries assume this form of '*initial frictions*,' rather than of barriers based on natural aptitudes, or the industrial atmosphere in which the workers have been reared.

The volume of interchange of labour in normal times between two trades is therefore no measure of the economic mobility of that labour, just as the volume of migration is no measure of the freedom of movement from place to place.

Real mea-
sure of
Mobility.

The best measure of mobility is probably the extent to which a class of workers would suffer by a change in the demand for the particular article they produce, or the particular process they perform. If they are independent of such changes, if they can preserve themselves by turning to the manufacture of another article, or the performing of another process, they are economically mobile: if not, they are immobile.

§ 2. Heredity in Industry.

Heredity
in trades

In discussing the power of free economic choice of employment, we must not neglect the effect of the '*industrial atmosphere*,' or, as it is sometimes styled, the tendency to heredity, in determining a boy's choice at the outset, however much biologists may be divided on the burning question of the actual transmission of acquired hereditary skill.

The hereditary tendency is naturally very strong where one great staple industry absorbs most of the labour of the rising generation. The boy follows the father without thought or question. But though the tendency of the factory system in its earlier stages was towards strong localisation of single industries, there has now for some time been observable in many districts a counter-tendency towards diversification, minor and subsidiary industries growing up around, and sometimes eventually out-growing the staple trade of the

district. All this tendency makes in the direction of free economic choice of employment. tends to diminish.

Another force acting in the same direction is the swallowing up of domestic industries by factories. It is in domestic trades, where the son is directly under his father's control, that the hereditary tendency is strongest. Thus in the boot trade, 'finishing,' which is mostly done at home, is said to be far more of a hereditary character than 'rivetting,' which is done in the factory. Strongest in domestic industries.

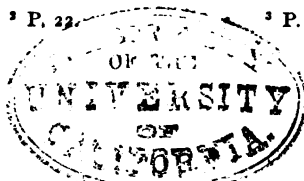
If a trade is overcrowded and highly localised, this hereditary tendency may become a great danger, as among the hand-nailers of Cradley Heath, where, although the trade has been decaying for more than half a century, children are still going into and further overcrowding their parents' trade. Mr. Burnett, in his 'Report to the Board of Trade on the condition of the Nail-makers and small Chain-makers,' speaks of a nailer of twenty-four, whom he found 'with his wife making three-and-a-half-inch spike nails, at which by their joint efforts they could earn 18s. a week by working 15 hours a day¹.' Another nailer informed him that 'young people were now coming into the trade by serving six months without wages, and rising by degrees to 6s. or 7s. a week².' This was in 1887, the economic displacement of hand-nails by foreign-made machine-nails having been in progress since 1830. Mr. Burnett is of opinion that the machine-made nail trade might have taken root in the hand-nail district, and absorbed the displaced labour, 'if the hand-made trade had been carried on in factories ready to adopt new mechanical ideas³.' Thus in the nail trade of Cradley Heath we see a striking example of the immobility between trade and trade which characterises domestic industries. Case of the hand-nailers at Cradley Heath,

On the other side, in the hand-nail trade at Silsden, in the West Riding, the tendency to crowd into a decaying trade seems to have been entirely checked by collecting the nailers into two or three workshops, where common action can be taken to close ingress into the doomed industry. The new generation now find other outlets in the neighbourhood, so that in Silsden the hand-nail trade is mostly in the hands of old men, and is dying naturally with the passing away of the present race of workers, with but little of the acute suffering which has made Cradley Heath notorious. and at Silsden.

¹ Pp. 15, 16.

² P. 22.

³ P. 43.



General
question
of he-
redity.

A complete study of heredity in trades has yet to be made, and probably the materials for such a study do not exist.

Mr. Francis Galton wrote to me three years ago, 'I tried once to get some solid evidence of the sort you want, but failed. . . I very much doubt if any observations exist on the subject worth serious consideration.'

The point to be considered is not whether acquired habits are transferable, but whether the operation of natural selection in inducing a worker to engage in one business rather than in another for which he is not so well equipped, tends in the long run to develop a certain hereditary skill, or whether, on the other hand, the whole of the observed tendency of children to follow their parents' trades is accounted for by the home influences and atmosphere, and the ordinary economic forces recognised.

As a contribution to the materials for a quantitative study of heredity, I give in Appendix II. the results of an analysis I have been allowed to make of the occupations of parents of workers engaged in Messrs. Lister and Co.'s great silk mill at Manningham. I have there tabulated all the occupations of parents on either side who have been engaged in any kindred trade, i.e. in any branch of textile industry. It is difficult to draw any conclusive results from such tables, but it is interesting to see the difference in the strength of the hereditary tendency in the *bona fide* textile departments, from that shown by the more miscellaneous branches of the industry, wash-house, stores department, &c.

§ 3. The two Lines of Specialisation of Labour.

There are
two kinds
of mo-
bility

We have seen that the mobility of labour is best measured by the degree to which the worker can preserve himself from economic disasters, by turning either to another process of the industry in which he is engaged, or to the manufacture of another commodity.

with re-
spect to
product
and pro-
cess.

This mode of measurement brings out clearly the two modes in which labour may be specialised—first with regard to the product turned out, secondly with regard to the process performed. Thus the old maker of hand-sewn boots, who made a boot from beginning to end, was specialised with regard to the product, for he could make nothing but boots, but unspecialised with regard

to any particular process of clicking, rivetting, finishing, &c., for he could perform them all. On the other hand, a fitter, turner or planer is specialised with regard to the process, for he can only occasionally do anything outside his own line; but he is unspecialised with regard to the product, for he can fit or turn or plane, as the case may be, in the making of any machine, and with a little adaptation, in the making of any engine.

There are thus two modes in which mobility is possible; between different processes in the manufacture of the same product, or between similar processes in the manufacture of different products. Interchange of labour may take place along either or both of these lines. There are thus two degrees of freedom open to a labourer, and it may be by reference to either or both of these lines of movement that we term a fitter or a boot-maker an 'all-round man.'

(§ 4. Effects of Machinery on Mobility.)

These distinctions being drawn, the general effects of The transition to machine-combing.
modern changes on mobility of labour may be made clearer by taking a particular example, such as the transition to machinery in the wool-combing trade, which is still within the memory of many living.

Hand-combing was a highly-skilled and highly-specialised form of labour. A man performed the whole process from beginning to end, but he could as a rule perform no other, though in some rural districts combing was carried on as a subsidiary industry to agriculture. The hand-combers were a clannish, often turbulent, set of men, irregular and migratory in their habits, but the very 'aristocracy' of the textile trades, so far as exclusiveness was concerned.

A trace of the same class spirit is still to be found among the wool-sorters, who now form nearly the only body of highly-skilled *hand-workers* engaged in the woollen and worsted industries. Though the demand for sorters has on the whole been declining of late years owing to various causes, comparatively few sorters have sought work in other lines of industry. How few have been taken into Lister's great silk mill in the centre of the worsted industry may be seen from a glance at Appendix I. Sorters like the

old combers are immobile, and the feeling against 'degrading' the market for their labour by accepting a lower kind of work is very strong.

To return to the hand-combers. When the great crisis in their lot came in the shape of the introduction of the combing machine half a century ago, the hand-workers were mostly helpless. Many could turn to no occupation, and many others drifted ultimately into occupations so entirely different from that in which they had been engaged, as to prove how totally valueless to them their special skill had become.

Fate of the
displaced
hand-
combers.

Thus many found work on the construction of the railways then rapidly spreading over the country in the days of Hudson, the railway king; a gang went to the Cleveland iron district, then being opened up; others, again, crowded to the gold diggings; others enlisted and went as soldiers to the Crimea. These were the younger men. [A few of the older men entered the combing mills as minders of the machines which had destroyed their industry, and some are in the mills to this day; but this was not a case of transference of skill to a kindred occupation, for the minding of a combing machine is a totally different process from hand-combing. Others again did nothing, but supported themselves on the earnings of their children, for whose labour an enormous demand arose from the rapid extension of the market, due to the cheapening of the process of combing and hence of woollen yarn. It was a pathetic sight, it is said, to see the old men making believe to be occupied, by carrying their children's dinners to the mills.]

Were we dealing with the transitory effects of a change of process on the condition of labour, there is much of interest in the pitiful story of the struggle between the hand-combers and the combing machine, and the gradual absorption of the remnant of the vanquished into other employments. All, however, that it is now necessary to bring out is the almost complete absence of real economic mobility.

Organisa-
tion of a
machine
industry.

When we change our point of view to the organisation of a modern textile industry, such as combing, we have to consider two classes of workers, the makers and the minders of the machines.

Mobility
of the
machine
makers,

(1) Roughly speaking, the makers, be they planers, turners, drillers, fitters, or what not, are unspecialised with regard to the wool-combing machine. A firm making combing machines could, if combing went out, turn with the same staff

to make other machines, if they could get customers. As an example of this kind of change it is stated that at the end of the American Civil War a gun factory was turned without change of staff into a sewing-machine factory. 'A fitter,' the engineers say proudly, 'is a fitter all the world over,' and his range of adaptability has been continually widened, as machinery has taken over one part after another of the heavier work, and so tended to assimilate the lighter to the heavier branches of the mechanical trades.

(2) As regards the minders of the machines, we have first and of the those who attend to the motor mechanism—usually a steam machine minders. engine, and next those who superintend the operations of the actual comb, loom, or other tool.

A complete machine, as Marx pointed out, consists of a motor mechanism, a transmitting mechanism and a tool. Now by this arrangement the supply of motive power is reduced to the supply, not of a particular kind of motion, but of 'power in the abstract.' The specialisation of this motion is done by the transmitting mechanism itself. Thus the engine which drives all the machines in a factory, and hence all the workers employed in the power department, are independent of the particular machines and the particular product manufactured. They may at the same time drive spinning frames, combing machines, and power looms. They would be untouched by an industrial storm which supplanted one fabric by another. So far as product is concerned they are completely mobile. 

The actual minding of the machine itself is of course a specialised function, though in combing the higher degree of specialisation applies only to the overlookers who give a general superintendence. 

The labour of the actual comb-minder, if it is to be called skilled at all, only requires a degree of skill such as could be learnt in a very few weeks, and in fact the labour is drawn mostly from other employments. There is here to some degree at least the low kind of mobility which attaches to want of skill. The overlooker is however a highly skilled mechanic, and the only degree of mobility he possesses is with respect to different kinds of combing machines (i.e. those adapted for long and short wool respectively). This however arises from the absence of processes corresponding to wool-combing in the other textile trades.

In the case of weaving it is different. A weaver cannot

spin, nor can a combing overlooker become a weaving overlooker. But among the various textile trades there is almost perfect interchangeability both of weavers and overlookers—subject always to the initial friction which in normal times keeps the various sections distinct.

Weavers. [For example, when Mr. Lister introduced in succession velvet for silk, plush for velvet, and seal-skin for plush, at his great mill at Manningham, he did so without introducing fresh workmen, although the looms had to be adapted. And it is quite customary to meet slight oscillations in demand, by transferring a number of weavers from one department to another and back again.] Often the oscillation of labour takes place among various mills, one or other being half deserted according to changes in demand. As illustrating the extent of interchange among different textile trades, we find from an analysis of the former occupations of the workers in the Manningham Mills, that out of 901 silk-weavers no fewer than 524 have been previously weavers of worsted, woollen, cotton, or other textile fabrics, while only 86 former weavers of these fabrics have passed into all the other departments of the mill.

Spinners. Of the spinners, out of 187 who have been drawn in from other employments, 172 have been worsted spinners. Spinning however is the department of textile industry which is most highly specialised with regard to the product turned out, the nature of the process and the character of the machines varying greatly for the different fabrics.

In the other main processes interchange is only retarded by an 'initial friction' which ceases to act as soon as there is a pressure on the market, and even this friction must tend to grow less and less as knowledge of the processes become more scientific and less empirical, more connected with general principles of machine construction, and less dependent on rule of thumb. At the same time, as has been pointed out by Professor Marshall, the importance of the rare but unspecialised qualities of judgment, steadiness, &c. tends to increase at the expense of the mere mechanical dexterity which enables a worker to perform with great precision a particular operation over and over again.

The complete tables of former occupations of the workers in Messrs. Lister & Co.'s employment, from which figures have been quoted above, are given in Appendix I; which, so far at least as regards a great factory of the type of the

Manningham Mills, gives materials for an estimate of the lines along which transference of labour most easily takes place. Taken in conjunction with Appendix II we have here a history of mobility extending over two generations.

We might apply a similar analysis to the business of a distributing house, where only a small and probably a decreasing proportion of the total staff are really 'specialised,' i.e. tied down to a particular kind of business. The clerks, cashiers, book-keepers, warehousemen, &c., could as a rule float off easily into other lines of distributive industry, though here the importance of the 'initial friction' is particularly marked; as in the case of a clerk who often is *slightly* specialised—just enough to make it most profitable for him to keep to one class of work in ordinary times, but not more.

§ 5. Mobility of Business-organisers.

Modern changes, and in a special degree the increasing complexity of business organisations, have greatly affected the mobility of employers. We must here consider as before the two degrees of freedom of movement,—the power of interchange among different businesses, and the power of interchange between master and workman in the same business.

As regards the first, it is to be noted that in the case of (1) the master mind presiding over a business—either as manufacturer or merchant—an increasing part of the necessary qualifications are the rare qualities of business habits and temper, power of handling men and skill in organisation, which all are independent of the special character of the business. Thus it is not uncommon for a really first-rate man of business to succeed equally in several diverse lines of industry. This tendency is seen in its fullest development among joint-stock Companies, where one man of business talent is often a useful director of many different enterprises of none of which he has actual technical knowledge.

The business man therefore, while highly specialised in function, is increasingly mobile as regards the particular branch of production in which he may be engaged.

Besides, however, the 'horizontal' mobility of business-organisers,—their power of interchange *inter se*,—we have to consider the 'vertical' mobility—the power of interchange (2) Between master and workman

in large
industries.

between employer and employed in the same business. There can hardly be a doubt that this has on the whole decreased with the rise of machine industry and production on a large scale. At least, in industries employing large capital and requiring much organising skill, such interchange is much less frequent than in trades, which, like the boot, clothing, and cabinet-making trades of East London, are carried on in small workshops with a minimum of machinery. A distinction, however, should be drawn between two kinds of mobility: otherwise we shall fall into confusion. Some when speaking of the power of a workman to become a master are thinking of the power of the exceptionally endowed worker to overcome the obstacles, social and material, which hinder him from rising in the world, and they rightly point to the influence of general progress and education in helping him to overcome such obstacles. From this point of view doubtless mobility is now greater than ever; and if a smaller proportion of large businesses are now owned and governed by self-made men, who began at the bottom of the scale, than was the case in the early days of the great Factory Industry, this may be in great measure due to the *spreading* of the rise over two generations. The general progress upwards is not from ordinary workman direct to employer, but rather by means of the stepping-stones of foreman and manager. In a large business there may be a certain amount of flow between employers and managers, between managers and foremen, and again between foremen and ordinary workmen. Thus indirectly, there may be a certain connection established between the remuneration of business skill and of labour in a great business, where there is never any direct interchange between the employers and the ordinary workers.

But this indirect communication is rather different from the mobility with which we are here more particularly concerned,—viz. the power of movement of labour in normal times backwards and forwards across the line of demarcation between master and man.

And in
small
industries.

The most striking cases in which a direct ratio between profits and wages is set up by the interflow between masters and journeymen are afforded by the trades carried on on the small scale, with the aid of a small amount of capital. Here the more general and unspecialised qualities of the business man, which as we have seen count for more and more

as industrial organisation advances, are of but comparatively small importance. The commercial side of the business is often very slightly developed, as for example in the sweated boot or coat trades of East London and elsewhere, where the small master is a contractor, the market being often organised and secured by the wholesale house.

The training required for a small master in such an industry as this, is mainly that which he acquires as a journeyman in the workshop. The master in fact often does some of the more highly skilled parts of the work himself, the organisation of the labour of his half-dozen employes not occupying all his time. Thus between the employer proper, who devotes himself exclusively to organisation, and the journeyman proper, who is occupied exclusively with manual work, we have in the small trades the intermediate link of the small master who is also partly a manual worker.

It is natural that in trades organised on this scale, interchange between masters and journeymen is very common. Nor is it merely an upward movement of selected individuals. Frequently in such trades as cabinet-making, journeymen become small masters, and small masters and foremen become journeymen, with little change of income. Moreover, there is here another connecting link, in the form of the independent worker, who is his own master and makes direct for the wholesale house.

Writing of the East London furniture trade, Mr. Aves says: 'To begin quite alone, either in the home, or by having a bench in a workshop, is however a frequent practice, and it is one of the drawbacks of the trade that men can so easily do this, and, after having helped to "degrade" the market for a time, fall back again into the ranks of the wage earners¹.'

The natural result of this freedom of interchange is, to use Mr. Aves' words, that 'wages start in amount from the same low level to which the earnings of the small or solitary makers often sink².'

In the East London boot trade we have a similar phenomenon on a scale even more striking, owing to the fact that the trade is largely in the hands of Jews who, as a race, usually prefer profit to wage as a source of income, other things being equal. Thus the multiplication of small employers causes

¹ E. Aves, *The Furniture Trade* (Charles Booth, 'Labour and Life of the People, East London'), vol. i. p. 329.

² *Ibid.* 350.

profits to sink in many cases, even below the wages of the highest class of labour employed. Mr. Schloss quotes a case in which the employer (in this case a woman) of four 'hands,' one of whom earns 13s. a week, does not herself average more than 6s. 7½d. a week including the remuneration of her own labour. Doubtless this is an exceptional case, but Mr. Schloss's analysis leaves no doubt that the profits of a small master are little, if at all higher, than those of the more skilled employes. It is the same in the tailoring trades, where, Mr. Burnett tells us, the small master works as hard as any of those he employs.

The modern tendency, taking England as a whole, is from the small to the large production, and it is therefore in such a centre as East London, which is almost alone in exhibiting the opposite tendency, viz. towards the multiplication of small workshops, that direct mobility between employer to employed can be best studied; and here we find the rather startling result that such power of interchange tends powerfully towards the evils of so-called 'sweating.'

Influence
on sweat-
ing.

Mr. Charles Booth, in his chapter on 'sweating,' has pointed out that 'the disease is closely connected with the multiplication of small masters,' and with the fact that 'men are content, at least for a while, to make less as masters than they would receive in wages as journeymen¹.'

That this, however, is not the inevitable result of mobility between employer and employed is sufficiently proved by the results described by Professor Cairnes in the slate quarries of North Wales, where the status of contractor, 'placed as nearly as possible mid-way between the position of the ordinary labourer and that of the capitalist pure and simple, . . . forms an easy stepping-stone for the elevation of the masses, from the precarious position of dependence upon the general labour market. . . . Even the less important class of workmen, who are employed in clearing away refuse, also pass occasionally into the ranks of the quarriers proper, and ultimately into those of the contractors . . . a state of things which serves to diffuse throughout the entire organisation an influence of the healthiest kind².'

Conclu-
sion.

On the whole we conclude that the power of ready inter-

¹ 'Labour and Life of the People,' vol. i. p. 488.

² Cairnes' 'Essays.' (The passage is alluded to by Mr. Schloss, *Fortnightly Review*, April, 1890.)

change between employer and employed tends to decrease with the rise of production on a large scale, and is as a rule most effective in those districts where (as in East London) the counter-tendency towards small production prevails ;—a result which it may be observed confirms our general law.

(§ 6. Conclusion as to Modern Changes in Mobility.)

To sum up the conclusions of the preceding sections : the Division operation of machinery and of the tendency towards produc- and tion on a large scale is to make it less and less economically advantageous for one man to perform more than one out of the many processes into which an employment becomes divided. The various members, however, of the group of workers who produce a particular article, tend simultaneously to become less and less specialised with regard to the production of that article ; and their range of mobility, narrowed as regards the power of interchange among themselves, is, as a rule, widened as regards the power of interchange with those performing corresponding processes of other trades.

The result is that machinery, while on the one hand intensifying the tendency to division of employments, tends on the other hand to reintegrate them on fresh lines, the new lines being determined by the nature of the process, rather than by that of the product. re-integration of employments.

How far this law is general in its application it is difficult to say. Doubtless it applies more strongly to some industries than to others, and perhaps most strongly of all to the mechanical trades. Were it confined in its operation to these industries alone, the tendency would be of great and increasing significance, since nearly every advance in industrial organisation increases the importance of those groups of trades which have more or less a mechanical basis.

Examples, however, might be drawn from the subdivision of labour in the cabinet-making, boot-making, and other diverse industries. Or we might take an instance from a sphere outside manual industry. Thus the work of a school, in the old days, was divided among masters according to classes—so many children being under the care of each master, who taught them throughout. Now, on the contrary, that the organisation of education has developed, it has become usual to have teachers of special subjects,—a teacher of drawing, a teacher of science,

and so forth—each teaching his particular subject to the whole school, or even to several schools in different districts. The teachers are becoming highly specialised in function, but as the specialisation becomes more and more complete, their 'mobility' as regards the particular class, or the particular school, in which they teach becomes more and more perfect, till the *ne plus ultra* at once of specialisation and mobility is reached in the 'peripatetic' instructor.

It would not be difficult to enumerate other examples of the same tendencies. Under these influences the boundaries of employments have been shifting, and industries re-forming and re-grouping themselves in new shapes and under new names. There is no rest, no absolute equilibrium in the economic world—all is in a perpetual state of flux and change. Employments once united have become separate; employments once separate have become united. It is little wonder that, under the stress of the change, apprenticeship and trade customs have broken down.

§ 7. Secondary Counter-tendencies.

The main tendencies which have been traced above, often set up secondary counter-tendencies which are worth a word of notice.

Example
of second-
ary spe-
cialisa-
tion.

(1) To take an example: The first tendency of machine production on a large scale is to split the process of making a book into a series of processes—printing, binding, publishing, retail dealing, &c.—all specialised as processes, but all independent of the nature of the product. The printer can print any book or any other form of literature, the bookseller sells all kinds of books and many articles besides. This is so far an example of our general law. But as the system of production becomes yet more complex, a secondary specialisation grows up with respect to product. The publisher specialises on a particular kind of book—there are educational publishers, theological publishers, cheap publishers, and high-class publishers. Again, the printing trade, especially in London, is tending to be split up into a great number of subsections according to the kind of article turned out. But these secondary subdivisions, which are described in Professor Marshall's 'Principles of Economics',¹ only appear where the trade is very highly organised, and are never

¹ Vol. I. p. 321.

separated from each other by more than the 'initial frictions,' of which note has been taken above. They can therefore be always easily overcome should a stress arise, and are thus of comparatively small *economic* importance.

The *social* effects of such initial frictions may be more far-reaching, since their tendency is to keep a man continually to one kind of work in ordinary times. Thus, to some degree, the stunting and warping effects of monotonous employment may be produced, even though the worker possesses to the full the power of transference to another compartment of the trade, *should an economic reason for such transference arise.*

(2) Again, the action of machinery in isolating from each other the various processes which contribute to the making of a particular article, often sets up a certain counter-tendency, inasmuch as the time necessary for becoming proficient in any one department grows less and less as the subdivisions become more and more minute. The friction retarding interchange among the departments becomes thus weaker and weaker, and is more easily overcome; while it also becomes possible in certain cases, at least, to insure against risk by learning two trades—a practice carried on already to some extent¹, and possibly destined to be more common in the future. However this may be, it would seem that modern changes not only tend to substitute one line of mobility for another,—to replace vertical by horizontal connections,—but also to bring the horizontal lines nearer together.

§ 8. Mobility in case of Industrial Transitions.

Incidental reference has been made in the course of the preceding sections to movement from one industry to another under the stress of an industrial transition. The subject, however, requires some further notice.

(1) The ease with which the displaced labour will be absorbed depends of course largely on its own 'mobility.' Compare for example the case of the hand-combers and the nailers, with that of the silk weavers converted into velvet and plush weavers in Manningham Mills.

¹ E.g. among painters and plumbers; or as in the case of the boot factories at Kingswood near Bristol, where it is said that a certain margin of boot-makers oscillate backwards and forwards between the factories and the neighbouring collieries according to season.

Transi-
tions of
different
characters
and
causes.

(2) But it also depends on the character and the cause of the transition. Thus the Cotton Famine, by raising the price of cotton, increased simultaneously the demand for wool, and consequently the tendency for the displaced cotton operatives to be absorbed in the kindred departments of the woollen and worsted industry was doubled in strength—there was a pull as well as a push.

The same holds true in the case of a change of fashion substituting one kind of textile fabric for another, *provided both are made in this country*. Where, however, as in the displacement of Bradford long-wool goods by French soft-wool goods some few years ago, the newly-favoured article is made abroad, no such double tendency is in force. The increased demand for labour to make the export (whatever it be), which pays for the imported commodity, is very unlikely to afford a real outlet for the displaced labour. This is true as a rule of displacements caused by changes in foreign tariffs, no really compensating demand being called into existence. A change of process, however, in the production of the same commodity often tends to set up a very great demand on the spot for new labour, and may thus offer entire compensation to the displaced workers, provided the change be not of so radical a nature as to transform completely the industry affected, as was the case with the invention of the combing machine. Thus many displaced wooden ship-builders found occupation on the iron ships, by which their former industry was superseded, though in this case the compensation was only temporary, since in the end the iron ship-building industry transferred itself to centres more accessible to the iron-producing districts. A better case, perhaps, is afforded by a nut and bolt factory in the midlands, where, as I am told by the manager, not a single worker was discharged, in spite of the repeated introduction of machinery, the widening of demand being sufficient to absorb all the displaced hand-workers.

Length of
time of
transition.

(3) Another circumstance of prime importance in determining the effects on labour of an industrial change is the length of time occupied by the transition. Sometimes, as in the case of the hand-loom weavers or the hand-nailers, the process of displacement is very gradual, and there is a long period during which the two methods of production are carried on side by side in fierce competition, the result being a gradual fall of wages, and often acute suffering in the decaying industry.

This is the worst form of displacement, but fortunately a long period of transition does not always involve a long period of suffering. It may be gradual enough to enable the diversion of labour, from the old industry into the new industry, to take place naturally and painlessly through the 'disposable fund' of new labour which comes every year on the labour market. This has been the case to a large extent in the competition of machine boots with hand boots. In the first instance the two industries almost occupied 'water-tight compartments,' supplying different classes of consumers. Gradually the market for machine boots has widened and encroached on the market for hand-made boots, and the number of workers engaged in the latter trade has accordingly shrunk. But wages in the hand-sewn boot trade have not been affected to any great extent by this indirect competition, acting, as it does, almost entirely through gradual changes in demand. Or again, in an industry which entirely disappears from a given locality, the decay may be slow enough to enable the workers to drift off into other trades as fast as the industry shrinks. This was the case in the flax industry formerly carried on in Leeds, where one great firm at least, foreseeing the collapse, took great pains to find work elsewhere for their employés, so that when the end came, instead of a mass of surplus labour being thrown on the market, there were actually not enough workers left to execute the last orders.



-ME

ills

LOY!

**Stocking Knitter,
&c.**

MESSRS. L

ills (1887) b

LOYMENTS.

Stocking Knitter, &c.	Miscellaneous or Unspecified.	TOTAL TEXTILE
...	2	180
...	...	11
...	...	184
I	19	459
...	6	92
...	1	35
I	9	82
I	10	127
...	...	1
...	...	5
...	...	62
I	3	138
...	...	57
...	...	13
...	...	10
...	...	19
...	...	30
...	...	40
I	...	78
...	...	22
...	I	14
...	...	18
...	...	25
...	...	17
...	...	21
...	I	22
...	...	19
...	I	7
		1788



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1	...
1	...
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...	...
82	...



APPENDIX III.

Analysis of birthplaces and place of last employment of those employed in the Manningham Silk Mill, Bradford (1888).

[N.B.—A person is set down as residing in Bradford and district if he or she could without change of residence work in a Bradford Mill.]

County or large Town.	Birth-places.	Where last employed before Bradford.	County or large Town (continued).	Birth-places.	Where last employed before Bradford.
Bedford	...	1	Rutland	1	...
Berks	...	...	Shropshire	7	4
Bucks	8	1	Somerset	18	2
Cambridge	12	1	Staffordshire	14	...
Cheshire	34	20	Suffolk	7	1
Cornwall	3	1	Surrey	2	...
Cumberland	9	3	Sussex	1	2
Derby	23	7	Warwickshire	18	6
Devon	10	2	Birmingham	8	4
Dorset	...	...	Westmoreland	3	2
Durham	31	16	Wilts	11	2
Essex	3	...	Worcester	9	3
Gloucestershire	6	4	Yorkshire	1160	483
Bristol	3	...	Bradford and sub- urbs	1615	...
Hampshire	5	3	Hull	22	9
Hereford	4	2	Leeds	124	63
Hertfordshire	...	...	Wales	5	3
Hunts	...	...	I. of Man	1	...
Kent	12	4	Scotland	28	5
Lancashire	97	63	Ireland	93	13
Liverpool	17	8	Jersey	1	...
Manchester	51	42	Germany	1	2
Leicestershire	8	5	Prussia	2	...
Lincolnshire	34	11	France	5	1
Middlesex	2	...	Belgium	1	...
London	31	13	Spain	1	...
Monmouthshire	1	...	India	4	5
Norfolk	25	13	Singapore	1	...
Norwich	9	...	Australasia	3	2
Northamptonshire	16	7	Africa	2	1
Northumberland	...	...	'At Sea'	3	...
Newcastle-on-Tyne	2	3	America	2	16
Nottinghamshire	10	6	Not known	4	3
Nottingham	3	...			
Oxford	2	...			
			TOTAL	3648	868

APPENDIX IV.

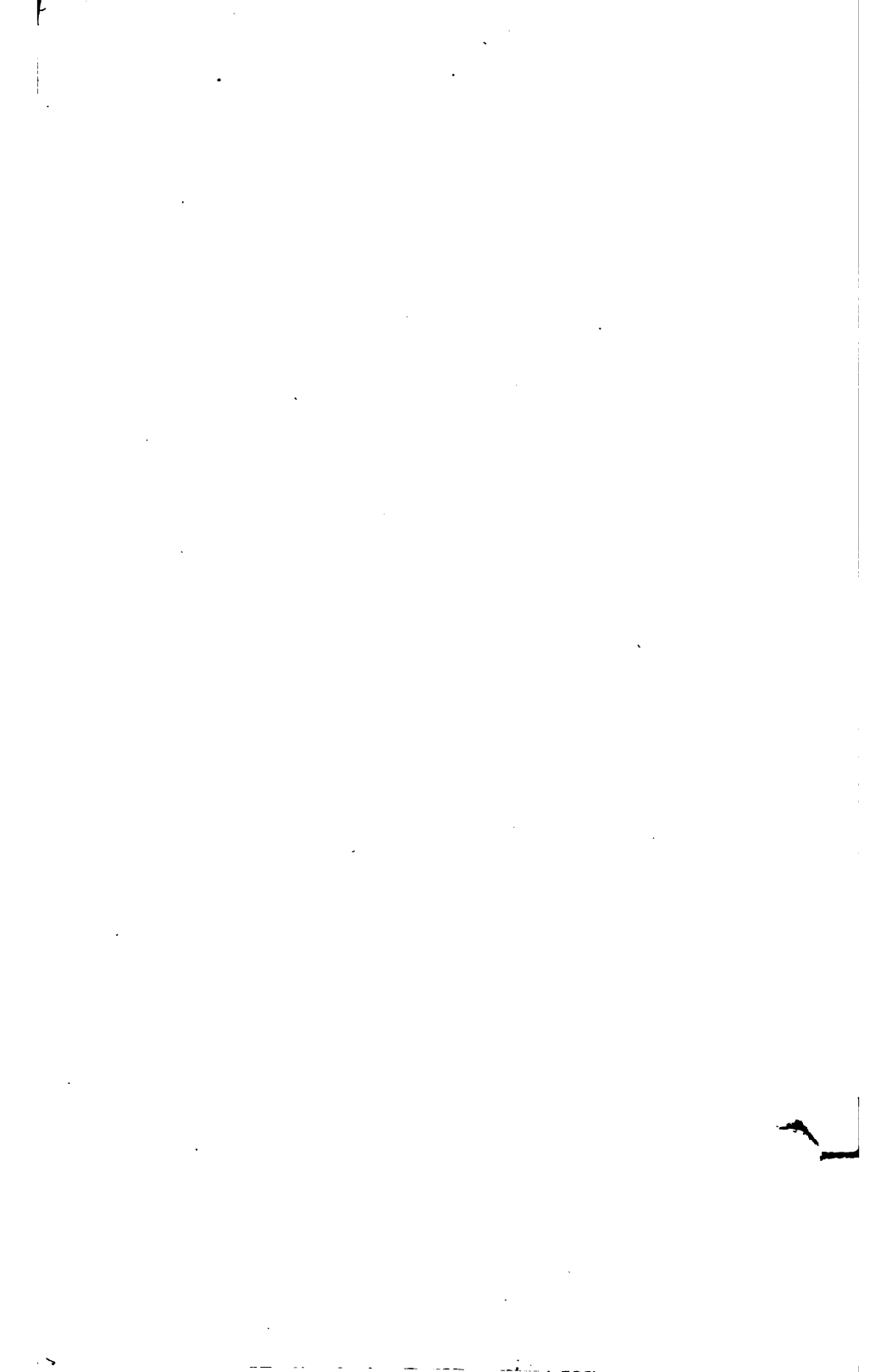
*Date of migration to Bradford and district of those employed in
Manningham Silk Mills (1888) who were born outside.*

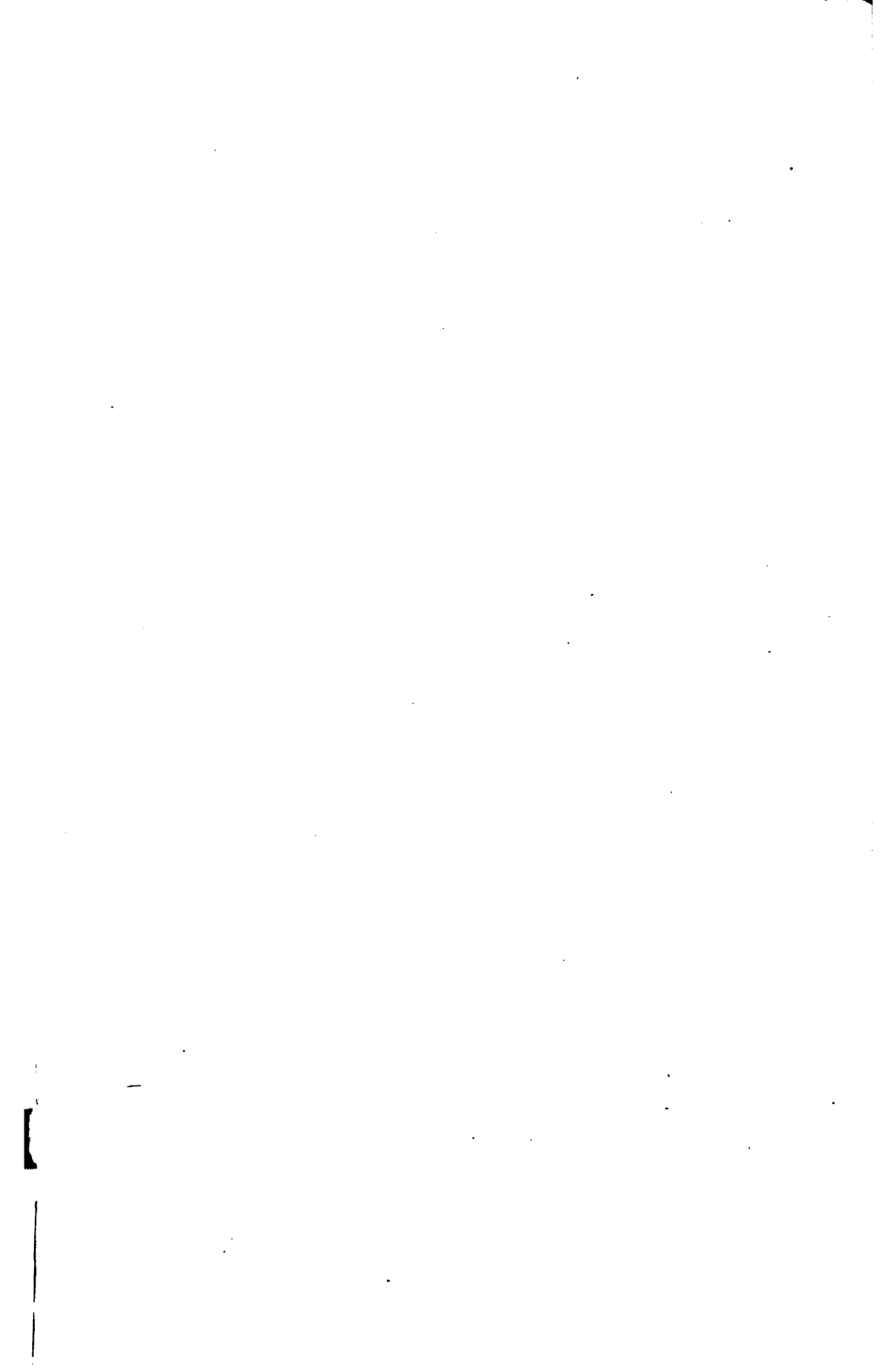
1887-8.	(i.e. length of residence under one year)	...	...	116.
1883-8.	(i.e. length of residence under five years)	...	...	376.
1878-82.	(i.e. length of residence over five and under ten years)	...	...	299.
1868-1877.	(i.e. length of residence over ten and under twenty years)	...	...	708.
Before 1868.	(i.e. length of residence over twenty years)	...	...	240.

[N.B.—In some cases the dates are not recorded, so that the above figures represent only about five-sixths of those employed in the Mills.









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